

Khyber Pakhtunkhwa Board of Technical Education Peshawar

Superintendent Sign:-

D.A.E Model Paper

2nd Year Chemical / Electrical / Mechanical / Electronics /

Telecom: /Bio-Medical / Petroleum / Food Technology (N/C)

Paper: - Business Manag: & Industrial Eco: (MGM-221)

Roll No: - _____

Candidate's Sign:-

Time Allowed: - 02 ½ Hours.

Max. Marks: - 50

Note: - The paper consist of three sections A, B and C. Part A should be attempted in 15 minutes and handed over to the Supdt with in the specified time. While Section B & C should be completed with in the remaining time.

Time Allowed: - 30 Minutes.

(Section – A)

Marks: - 10

Q.1: - a) Fill in the blanks with correct answer.

- i. Economic is defined in terms of science of material welfare by _____.
a) Adam smith b) Robbins c) Marshall d) Keynes
- ii. A sum of all goods and services that have market value is called _____.
a) Income b) Saving c) Wealth d) Price
- iii. Total numbers of production are _____.
a) 3 b) 4 c) 5 d) 6
- iv. Law of demand states the relationship between _____.
a) Demand and supply b) price and quantity demanded
c) price and quantity supplied d) Income and quantity demanded
- v. Supply curve has _____.
a) positive slope b) Negative slope c) constant slope d) zero slope

b) Tick True / False

- i. Saving is the difference between income and consumption. True / False
- ii. Value of a goods and / or service is the price time quantity. True/ False
- iii. Profit is the difference between price and income. True / False
- iv. A manager of a company, sometime, may be called labour. True / False
- v. Capital is the amount of money used for initiating business. True/ False

Khyber Pakhtunkhwa Board of Technical Education Peshawar

D.A.E Model Paper

2nd Year Chemical / Electrical / Mechanical / Electronics /

Telecom: /Bio-Medical / Petroleum / Food Technology (N/C)

Paper: - Business Manag: & Industrial Eco: (MGM-221)

Time Allowed: - 2½ Hrs.

Marks: - 40

(Section – B)

Note: -

Write short notes not more than five sentences, on any eight of the following terms / concepts. Each part has three marks.

- | | |
|-------------------------|-----------------------------|
| i) Cheque | ii) Commercial Bank |
| iii) Advertisement | iv) Barter System |
| v) Utility | vi) International Trade |
| vii) Land | viii) Entrepreneurial skill |
| ix) Scale of production | x) partner ship |
| xi) Standard of living | |

(Section – C)

Note: -

Attempt any 02 questions in detail from the following. Each question carries 08 marks.

Q.2: -

Illustrate law of demand with the help of schedule and diagram and also explain its non price determinants.

Q.3: -

Define money and what are its functions.

Q.4: -

Explain the functions of central bank.

Khyber Pakhtunkhwa Board of Technical Education Peshawar

Superintendent Sign:-

D.A.E Model Paper

Ist Year Civil Technology (New Course)

Paper: - Survey – I (CT – 114)

Roll No: - _____

Candidate's Sign:-

Time Allowed: - 03 Hours.

Max. Marks: - 100

Note: - Question No .1 is compulsory.

Time Allowed: - 30 Minutes.

(Part – A)

Marks: - 20

Q.1: - a) Choose the correct answer.

- In chain Survey the area is divided into;
 - Rectangle
 - Squares
 - Triangles
 - Circles
- The surface of still water is considered to be;
 - Level Surface
 - Smooth surface
 - Horizontal surface
 - Sloping surface
- The difference between F.B and B.B of a line free from Local attraction is
 - 180°
 - 90°
 - 360°
 - 0°
- In accessible points in plane tabling are located by the method of .
 - Resection
 - Traversing
 - intersection
 - Radiation
- Current meter is used for the measurement of
 - Velocity
 - Angle
 - distance
 - Area

b) Tick True / False.

- The length of engineering chain is 99'. True / False
- In the whole circle bearing system ; BB is = F.B + 180 True/ False
- In leveling operations the H.I = B.M reading + B.S reading True / False
- Temporary adjustment consist of centering, leveling, focusing. True / False
- Plumbing fork is used in Hydrographic survey. True/ False

c) Match the terms in Column A with appropriate words in column B and write down your choice in the answer column.

S.No	Answer	Column A	Mark	Column B
1		Gunter's chain	A	Height of instrument
2		Whole circle bearing	B	Sounding rod
3		Alidade	C	Plane tabling
4		Optical square	D	Prismatic compass
5		Hydrographic survey	E	66 ft

d) Fill in the blanks with suitable words.

- True bearing of a line is known as _____.
- A point of known elevation is known as _____.
- Contour line cross ridge lines at _____.
- The point at which location of instrument is changed is known as _____.
- Radiation method is used in _____.

Khyber Pakhtunkhwa Board of Technical Education Peshawar

Diploma of Associate Engineer

Model Paper

Ist Year Civil Technology (New Course)

Paper: - Survey – I (CT – 114)

Time Allowed: - 2 ½ Hrs.

Marks: - 80

(Part – B)

Note: - Attempt any 11 questions. Each question carries 04 marks. (44)

- Q.1: -** Compare the two systems of expressing the Magnetic bearings.
- Q.2: -** Define different types of leveling.
- Q.3: -** What do you understand by Orientation of a Plane Table.
- Q.4: -** How would you detect the presence of local attraction at a station?
- Q.5: -** What is the angular and linear check of a closed traverse?
- Q.6: -** What is the difference between Plane surveying and Geodetic Surveying?
- Q.7: -** Define bench marks and name the types of bench mark.
- Q.8: -** State the importance of a Datum surface in surveying.
- Q.9: -** Differentiate between contour interval and horizontal equivalent.
- Q.10: -** Define stadia constant.
- Q.11: -** Define hydrographic survey.
- Q.12: -** What do you understand by Sounding in hydrographic surveying?
- Q.13: -** Write primordial formula for computing the earth work in embankment.
- Q.14: -** Draw the cross section of a road fully in cutting.
- Q.15: -** Make a page of level book for recording the observed reading on ground.

(Part – C)

Note: - Attempt any three questions. All questions carry equal (12) marks. (36)

- Q.2: -** The distance between two stations was measured by means of engineer's. Chain which was 4 too short and the result was 1600 ft. Find the true distance between the two stations.
- Q.3: -** Name different methods of Plan Table survey and explain any one of them.
- Q.4: -** The following record refers to an operation involving reciprocal leveling. If the reduced level of station A is 525.50, find the reduced level of station B.

Instrument Station	Staff Reading		Remarks
	A	B	Distance AB = 500m
A	1.155	2.595	
B	0.985	2.415	

- Q.5: -** Explain clearly the difference between Prismatic compass and Surveyor's compass.
- Q.6: -** Describe the uses and characteristics of contour lines.

Khyber Pakhtunkhwa Board of Technical Education Peshawar

Superintendent Sign:-

D.A.E Model Paper

Ist Year Civil Technology (New Course)

Paper:- Survey – I (CT – 114)

Roll No: - _____

Candidate's Sign:-

Time Allowed: - 03 Hours.

Max. Marks: - 100

Note: - Question No .1 is compulsory.

Time Allowed: - 30 Minutes.

(Part – A)

Marks: - 20

Q.1: - a) Choose the correct answer.

- In chain Survey the area is divided into;
 - Rectangle
 - Squares
 - Triangles
 - Circles
- The surface of still water is considered to be;
 - Level Surface
 - Smooth surface
 - Horizontal surface
 - Sloping surface
- The difference between F.B and B.B of a line free from Local attraction is
 - 180°
 - 90°
 - 360°
 - 0°
- In accessible points in plane tabling are located by the method of .
 - Resection
 - Traversing
 - intersection
 - Radiation
- Current meter is used for the measurement of
 - Velocity
 - Angle
 - distance
 - Area

b) Tick True / False.

- The length of engineering chain is 99'. True / False
- In the whole circle bearing system ; BB is = F.B + 180 True/ False
- In leveling operations the H.I = B.M reading + B.S reading True / False
- Temporary adjustment consist of centering, leveling, focusing. True / False
- Plumbing fork is used in Hydrographic survey. True/ False

c) Match the terms in Column A with appropriate words in column B and write down your choice in the answer column.

S.No	Answer	Column A	Mark	Column B
1		Gunter's chain	A	Height of instrument
2		Whole circle bearing	B	Sounding rod
3		Alidade	C	Plane tabling
4		Optical square	D	Prismatic compass
5		Hydrographic survey	E	66 ft

d) Fill in the blanks with suitable words.

- True bearing of a line is known as _____.
- A point of known elevation is known as _____.
- Contour line cross ridge lines at _____.
- The point at which location of instrument is changed is known as _____.
- Radiation method is used in _____.

Khyber Pakhtunkhwa Board of Technical Education Peshawar

Diploma of Associate Engineer

Model Paper

Ist Year Civil Technology (New Course)

Paper: - Survey – I (CT – 114)

Time Allowed: - 2½ Hrs.

Marks: - 80

(Part – B)

Note: - Attempt any 11 questions. Each question carries 04 marks.

- Q.1: -** Compare the two systems of expressing the Magnetic bearings.
- Q.2: -** Define different types of leveling.
- Q.3: -** What do you understand by Orientation of a Plane Table.
- Q.4: -** How would you detect the presence of local attraction at a station?
- Q.5: -** What is the angular and linear check of a closed traverse?
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- Q.14: -** Draw the cross section of a road fully in cutting.
- Q.15: -** Make a page of level book for recording the observed reading on ground.

(Part – C)

Note: - Attempt any three questions. All questions carry equal (12) marks.

- Q.2: -** The distance between two stations was measured by means of engineer's. Chain which was 4 too short and the result was 1600 ft. Find the true distance between the two stations.
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Instrument Station	Staff Reading		Remarks
	A	B	Distance AB = 500m
A	1.155	2.595	
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- Q.6: -** Describe the uses and characteristics of contour lines.

Khyber Pakhtunkhwa Board of Technical Education Peshawar

Superintendent Sign:-

D.A.E Model Paper

Ist Year Electrical Technology (New Course)

Paper: - Principle of Electrical Engineering (ET – 115)

Roll No: - _____

Candidate's Sign:-

Paper – A

Time Allowed: - 03 Hours.

Max. Marks: - 75

Note: - Part A is compulsory and should be attempted in 20 minutes and handed over to the Supdt within the specified time. Cutting, erasing and overwriting is not allowed. Use of pencil is not allowed.

Time Allowed: - 20 Minutes.

(Section – A)

Marks: - 15

Q.1: - a) Fill in the blanks with suitable words.

- Atom is basically a _____ particle.
- The resistance of conductor is _____ the size of the conductor.
- According to Ohm's law current is _____ the voltage applied.
- Kirchoff's voltage law relates to both _____.
- The property of material which opposes the flow of magnetic flux is called _____.

b) Choose the correct answer.

- The specific resistance is measured in:
 - Ohm
 - Mho
 - Ohm-Cm
 - Coulomb
- In colour code formula, the number used for black colour is:
 - 0
 - 2
 - 2
 - 5
- The reciprocal of reluctance is
 - Permeability
 - Permeance
 - Conductance
 - Susceptance
- When conductor cuts the magnetic field, an EMF is induced in the conductor.
 - Faraday's Law
 - Joule's law
 - Coulomb's law
 - Lenz's law
- The lowest dielectric is of
 - Air
 - Glass
 - Quartz
 - Paper

c) Tick True for true statement and False for false statement.

- The unit of electric charge is Farad. True / False
- KWH is the abbreviation used for Kilo watt Hours. True / False
- The value of frequency used in Pakistan is 60Hz. True / False
- Generator converts Mechanical Energy into electrical energy. True/ False
- The relative permittivity of a vacuum is Zero. True / False

Khyber Pakhtunkhwa Board of Technical Education Peshawar

D.A.E Model Paper

1st Year Electrical Technology (New Course)

Paper: - Principle of Electrical Engineering (ET – 115)

Paper – A

Time Allowed: - **2 Hrs & 40 minutes.**

(Section – B)

Marks: - 60

marks: 36

Note: - Answer 09 questions from part- B and 03 questions from part - C.

Q.2: -

- Illustrate the effect of temperature on conductors.
- Explain Thevenin's equivalent circuit.
- Enlist the steps used to solve the complex network, using Superposition theorem.
- State maximum power transfer theorem.
- Define absolute and relative permeability.
- State Fleming's Left hand rule.
- Explain mutual induced E.M.F.
- Enlist different types of capacitors.
- Briefly discuss phase angle.
- Enlist the characteristics of RC series circuit.
- Discuss power factor of an AC circuit.
- Explain series resonance.

(Section – C)

marks: - 24

Note: - Attempt any 03 questions in detail from the following.

Q.3: -

If a specific resistance of manganin is $41.8 \mu\Omega \text{ cm}$, what is the diameter of a manganin wire 68.7m long which has a resistance of 8.86Ω .

Q.4: -

Find the equivalent resistance of the circuit shown in Fig.1.

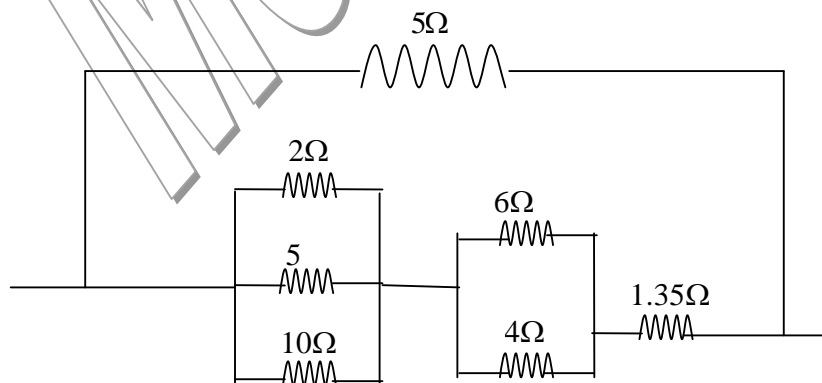


Fig.1

Q.5: -

Derive expressions for capacitors connected a) In series b) In parallel

Q.6: -

Derive an expression used for sinusoidal EMF.

Q.7: -

Enlists the different types of waveforms and illustrate the generation of alternating voltage and current.

Khyber Pakhtunkhwa Board of Technical Education Peshawar

Superintendent Sign:-

D.A.E Model Paper

Roll No: - _____

Candidate's Sign:-

2nd Year Electrical Technology (New Course)

Paper: - Electrical Instrument & Measurement (ET – 223)

Time Allowed: - 03 Hours.

Max. Marks: - 100

Note: - The paper consist of three sections A, B and C. Part A is compulsory and should be attempted in 20 minutes and handed over to the Supdt with in the specified time. While Section B & C should be completed with in the remaining time.

Time Allowed: - 20 Minutes.

(Section – A)

Marks: - 20

Q.1: - a) Choose the correct answer.

- A voltmeter is always connected in
 - series
 - parallel
 - sometime series & sometime parallel
- Damping Torque in an instrument controls
 - controlling for
 - movement of pointer
 - oscillation of pointer
- Thermo Couple instrument operates on
 - Bi-metal
 - Trimetal
 - unit metal strip principal
- A meggar is basically a
 - moring iron instrument
 - moving cot instrument
 - Electrolytic instrument
- Which are integrating instrument
 - VAR meter
 - Speedo meter
 - Strobo scope

b) Tick True for true statement and False for false statement.

- Spring control is easiest methods for bringing pointer to initial position. True / False
- Shunt method is used to entered the range of the Ammeter. True / False
- In short circuit test all are connected to circuit. True / False
- The secondary winding of current is connected in parallel to ammeter. True/ False
- Digital multi meter is an analogue instrument. True / False

c) Fill in the blanks

- A short circuit points the voltage is _____.
- Garling central method is used to produce _____ torque.
- Watt meter measure _____ power.
- Murray loop test works on the principal of _____ bridges.
- Holes are drilled on opposite dies of the moring disk of energy meter to avoid _____ at no load.

d) Match Column A with Column B.

Answer	Column A	Column B
	Wheat stone Bridge	Fluid Fruition
	LED	Display
	Damping method	Multi meter
	Meggar	Low resistance measurement
	AVO meter	Insulation resistance

Khyber Pakhtunkhwa Board of Technical Education Peshawar

D.A.E Model Paper

2nd Year Electrical Technology (New Course)

Paper: - Electrical Instrument & Measurement (ET – 223)

Time Allowed: - 2 Hrs & 40 minutes.

(Section – B)

Marks: - 80

marks: 44

Note: - Answer any 11 questions in short from this part. Each question carry 05 marks.

Q.2: -

- i. Differentiate between absolute & secondary instrument.
- ii. Enlist different damping techniques / method.
- iii. Derive formula for extension of range of a Voltmeter.
- iv. Draw and label circuit diagram of a single energy meter.
- v. How meggar is used for open circuit test?
- vi. State the working principle of Thermocouple.
- vii. Draw different basic components of measuring instrument.
- viii. Draw different basic components of measuring instrument.
- ix. Enlist at least 5 different types of pointer, used in the measuring instrument.
- x. How Bi-metallic instrument works?
- xi. Why two single & energy meters can be group for making, unit energy.
- xii. Write down different types of Sycho-Scope.
- xiii. How faults in a undersigned cable is located & removed.
- xiv. Differentiate between MDI & Ordinary Energy meter.
- xv. What is Multiplexer?

(Section – C)

marks: - 36

Note: - Attempt any 03 questions in detail from the following. Each question carries 12 marks.

Q.3: - Describe the construction and working principle of operation of repulsion type moving iron instrument.

Q.4: - Explain the operation of Energy meter with the help of a neat diagram.

Q.5: - A moving coil instrument gives full scale deflection at 0.005 Amp. If the coil resistance is 10Ω. Calculate how their instrument can be used as Voltmeter with range upto 100 volt.

Q.6: - Briefly explain any Sychronoscope in detail.

Q.7: - Enumerate with diagram the working of Kelven Double Bridge.

Khyber Pakhtunkhwa Board of Technical Education Peshawar

Superintendent Sign:-

D.A.E Model Paper
3rd Year Electrical Technology (N/C)
Paper: - Telecommunication (ET – 343)

Roll No: - _____
Candidate's Sign:-

Time Allowed: - 03 Hours.

Max. Marks: - 100

Note: - The paper consist of three sections A, B and C. Part A is compulsory and should be attempted in 20 minutes and handed over to the Supdt with in the specified time.
While Section B & C should be completed with in the remaining time.

Time Allowed: - 20 Minutes.

(Section – A)

Marks: - 20

Q.1: - a) Multiple Choice / Fill in the blanks with correct answer.

- The code used in Teleprinter machine is
a) Morse code b) unit code c) 7.5 unit code
- When a telephone set is removed from rest position, the subscriber line loop is:
a) Disconnected b) Closed c) Nil
- The unit of telephone traffic is;
a) erlag b) hours c) call/sec
- The transition system in Pakistan is;
a) PCM 30 b) PCM 24 c) PCM 32
- If light passes from less dense to denser medium, it is:
a) Reflected b) Refracted c) Scattered

b) Fill in the blanks.

- The unit of Telegraphic speed is known as _____.
- PABX stands for _____.
- Telephone transmitter is a device that converts sound energy into _____ energy.
- In the automatic telephone system the connections between different subscribers is established with the help of electro magnetic switches called _____.
- In the AM Modulating signal changes the _____ of the carrier.

c) Tick True for true statement and False for false statement.

- Laser light is produce by stimulated light. True / False
- The satellite act as a Repeater. True / False
- Machine telegraphy is based on the principals of start-stop. True / False
- Telephone receiver is device that converts electrical energy into sound energy. True/ False
- In FM, Modulating signal changes amplitude of the carrier signal. True / False

d) Match Column A with Column B.

Answer	Column A	Column B
	Telephone Transmitter	Quantization
	PCM	Central Clock Generator
	Optical Fiber	Carbon Granules
	Satellite	Laser
	Digital Exchange	22300 miles

Khyber Pakhtunkhwa Board of Technical Education Peshawar

D.A.E Model Paper

3rd Year Electrical Technology (N/C)

Paper: - Telecommunication (ET – 343)

Time Allowed: - 2 Hrs & 40 minutes.

(Section – B)

Marks: - 80

marks: 44

Note: - Answer any 11 questions in short from this part. Each question carry 04 marks.

Q.2: -

- i. What is the duration of DOT and speed in Baud in Morse system, if transmit at the speed of 25 WPM.
- ii. Define Modulation.
- iii. Define Nyquest Theorem.
- iv. Draw the diagram of telephone transmitter.
- v. What is side tone?
- vi. Enlist merits of automatic telephone system.
- vii. Draw the AM wave form.
- viii. Enlist merits and demerits of Machine telegraphy.
- ix. Write the application of computer in digital exchanges.
- x. Define Reflection of Light.
- xi. What are different modes of Optical Fiber?
- xii. Write merits of Satellite Communication.
- xiii. Enlist various bands of Microwave Frequency.
- xiv. Enlist main features of CCS.
- xv. Enlist the merits of Optical Fiber communication.

(Section – C)

marks: - 36

Note: - Attempt any 03 questions in detail from the following. Each question carries 12 marks.

Q.3: -

What is meant by telephone dialing? Explain tone dialing in detail.

Q.4: -

Explain pulse code modulation in detail.

Q.5: -

Explain mobile telephone system.

Q.6: -

Explain the block diagram of microwave communication link.

Q.7: -

Draw the block diagram of digital telephone exchange and explain it.

Khyber Pakhtunkhwa Board of Technical Education Peshawar

Superintendent Sign:-

Diploma of Associate Engineer
Ist Year Civil Technology (New Course)
Paper: - Civil Drafting – I (CT – 133)

Roll No: - _____
Candidate's Sign:-

Time Allowed: - 03 Hours.

Max. Marks: - 50

Note: - Part – A is compulsory. It should be attempted on question paper & returned after Ist 30 minutes. Cutting, overwriting & use of lead pencil is not allowed.

Time Allowed: - 30 Minutes.

(Part – A)

Marks: - 10

Q.1: - Tick the correct answer.

- Visible lines always take precedence over hidden lines on centerlines. True / False
- The profile plane is the plane upon which the side view is projected. True / False
- First angle projection is primarily used in Europe and Asia. True / False
- Broken-out section is limited by a break line. True / False
- In isometric projection, all distances are approximately 80 percent of their true size. True / False
- Lines of an isometric drawing that are not parallel to the isometric axes are called trimetric lines. True / False
- The triangle having two sides equal in magnitude is called Scalene Triangle. True / False
- Axonometric projection is a type of orthographic projection. True / False
- Submission drawing is prepared for a building which is to be constructed. True / False
- The act of changing the air present in a building is called orientation. True/ False

Time Allowed: - 2 ½ Hrs .

(Part – B)

Marks: - 22

Q.2: - Write short answer of the following questions. All questions carry equal marks.

- Enlist different types of lines.
- Write importance of free hand sketches.
- Write importance of scale and their types.
- Define plane geometry and solid geometry.
- Define Rhombus, Parallelogram and Polygon.
- Define Cone and Conic Section.
- Enlist different views of orthographic projection.
- Write only three objectives of building.
- Enlist different types of building drawing.
- Differentiate line plane and detail plane.
- Define perspective drawing.

(Part – C)

Marks: - 18

- Q.3: -** Explain the importance and daily uses of civil engineering drawing with suitable example.
- Q.4: -** What do you mean by “Orthographic”. Also define different positions of principal plane.
- Q.5: -** Enlist different types of “Sectioning”. Explain any two types of section with example.
- Q.6: -** Draw a detail plan and elevation of primary school with suitable dimensions.
- Q.7: -** What do you mean by orientation of building. Enlist the objectives of orientation.
- Q.8: -** Draw conventional symbols of different building materials.

Khyber Pakhtunkhwa Board of Technical Education Peshawar

Superintendent Sign:-

Diploma of Associate Engineer
Ist Year Civil Technology (New Course)

Roll No: - _____
Candidate's Sign:-

Paper: - Civil Drafting – I (CT – 133)

Model Paper

Time Allowed: - **03 Hours.**

Max. Marks: - **50**

Note: - Part – A is compulsory. It should be attempted on question paper & returned after Ist 30 minutes. Cutting, overwriting & use of lead pencil is not allowed.

Time Allowed: - **30 Minutes.**

(Part – A)

Marks: - **10**

Q.1: - Tick the correct answer.

- Visible lines always take precedence over hidden lines on centerlines. True / False
- The profile plane is the plane upon which the side view is projected. True / False
- First angle projection is primarily used in Europe and Asia. True / False
- Broken-out section is limited by a break line. True / False
- In isometric projection, all distances are approximately 80 percent of their true size. True / False
- Lines of an isometric drawing that are not parallel to the isometric axes are called trimetric lines. True / False
- The triangle having two sides equal in magnitude is called Scalene Triangle. True / False
- Axonometric projection is a type of orthographic projection. True / False
- Submission drawing is prepared for a building which is to be constructed. True / False
- The act of changing the air present in a building is called orientation. True/ False

Time Allowed: - **2 ½ Hrs.**

(Part – B)

Marks: - **21**

Q.2: - Write short answer of seven of the following questions. All questions carry equal marks.

- Enlist different types of lines.
- Write importance of free hand sketches.
- Write importance of scale and their types.
- Define plane geometry and solid geometry.
- Define Rhombus, Parallelogram and Polygon.
- Define Cone and Conic Section.
- Enlist different views of orthographic projection.
- Write only three objectives of building.
- Enlist different types of building drawing.
- Differentiate line plane and detail plane.
- Define perspective drawing.

(Part – C)

Marks: - 19

Note: - Attempt any three questions.

- Q.3: -** Explain the importance and daily uses of civil engineering drawing with suitable example.
- Q.4: -** What do you mean by “Orthographic”. Also define different positions of principal plane.
- Q.5: -** Enlist different types of “Sectioning”. Explain any two types of section with example.
- Q.6: -** Draw a detail plan and elevation of primary school with suitable dimensions.
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KHYBER PAKHTUNKHWA BOARD OF TECHNICAL EDUCATION, PESHAWAR

Signature of Supdt.

Diploma of Associate Engineers**Subject: - English (GEN-112)**

R.No. _____

Sign Cand. _____

Model Paper**Total Marks: 100****Total Time: 3 hours**

Note: The Paper consists of three sections A, B and C Part A has twenty (20) minutes and should be submitted to the superintendent with the specified time and the other sections B and C should be completed with the remaining time.

Part-A**Max Time Part-A: 30 minutes****Max Marks: 20****Q1. Attempt all questions in section A. Each question carries one (01) mark.****A) Choose the correct answer.**

- Archaeology relates to _____
a. Agriculture b. Horticulture c. Ancient Sites d. Architecture
- Home making is the obligation of _____
a. Husband b. Wife c. Both the spouses d. None of them
- Over Population means _____
a. More people living somewhere b. Lack of facilities c. less comforts
d. Has no agreed upon definition
- Churchill was known as _____
a. Dunce b. Intelligent student c. Lazy Student d. Average student
- Chandar Gupta spread teachings of Budha in _____:
a. Iraq b. Iran c. India d. Burma

b) Tick the correct answer.

- Quaid advised Pakistani officers to shun nepotism..... (T / F)
- Computer has creative capability (T / F)
- The Future generation will need more energy resources (T / F)
- The building of Mughal era not in good conditions (T / F)
- Hazrat Muhammad (SAW) was great military commander (T / F)

c) Match the following statement.

S.No	Answer	Column A	Mark	Column B
1		Zymosis is	A	A farsighted person
2		Quaid e Azam	B	Neurons
3		Sir John Marshall	C	Addressed first constituent assembly
4		Human brain is made of	D	A disease
5		Welldon was	E	Discovered Mohenjo-Daro

d) Fill in the blanks with suitable words.

- The knowledge of bee keeping is known as _____.
- A lie has no legs to stand _____.
- Early o bad and early to rise makes a man healthy, wealthy and _____.
- The dangerous building was _____.
- A road was _____ up to the market.

KHYBER PAKHTUNKHWA BOARD OF TECHNICAL EDUCATION, PESHAWAR**Diploma of Associate Engineering****Subject: - English (GEN-112)****Max Time: 2hours & 40 minutes****Max Marks: 80****Part-B****QNo.2 Attempt any eleven (11) questions. Each question carries 4 marks.**

1. How did the Holy Prophet (SAW) treat the orphans?
2. When did Alexander the great first come to Texila. (Marks=44)
3. Who runs routine matters of a home?
4. What are domestic chores?
5. Name any two archaeological sites in Pakistan?
6. What was the pulse rate of Jerome K Jerome as checked by him?
7. Why was the congress leaders put behind bars during World War-II?
8. Can a super computer surpass a human brain in everyday life?
9. What kind of housing is the standard need?
10. Where did Muhammad Bin Qasim land in Subcontinent?
11. What method did Churchill's?
12. What is the present name of Mesopotamia?
13. Is there any agreed upon definition of the world over population.
14. What did Quaid want to be the capital of East Pakistan.

Part-C**Note: Attempt any three questions. Each question carries 12 marks.****QNo3. Write summary of any one of the following:**

- a. The man who was a hospital.
- b. M.A Jinnah, a great statesman

(Marks=36)

QNo4. Write an essay on any one of the following:

- a. Science and our life
- b. Technical Education- the only solution of unemployment.

QNo5. Your class desires to go for an industrial tour. Write an application to your Principal for permission and grant of necessary fund.**QNo6. Translate the following paragraph into English.**

QNo7. Translate the following paragraph in Urdu.

Hazrat Muhammad (SAW) is the last prophet of Allah. He was kind to everyone. He helped the orphans, and the widows. He was affectionate to his relatives and forgiving to his enemies. In childhood he gazed the sheep of his foster parents. When he grew up he went on trading trips to neighboring countries.

Khyber Pakhtun Khwa Board of Technical Education Peshawar

Sign of Supdt:-

Diploma of Associate Engineer

Model Paper

Roll No: - _____

Candidate's Sign:-

1st Year Electrical / Electronics / Telecomm /

Computer Hardware / Bio-Medical Technology (New Course)

Paper: - Applied Mathematics – I (Math – 123) (Paper –A)

Time Allowed: - 03 Hours.

Max. Marks: - 75

Note:- Part – A is compulsory. It should be attempted on the question paper & handed over to the Centre Superintendent after 20 minutes. Cutting, erasing & overwriting is not allowed.

Time: - 20 Minutes

Part – A

Marks: - 15

Q.1:- (a) Choose the correct answer.

(05)

i. A 2nd degree equation in variable “x” is also called _____

a) Quadratic b) Linear c) cubic

ii. If α, β are the roots of a Quadratic equation; then the reciprocal of the roots

α, β will be _____. a) $\alpha + 1, \beta + 1$ b) $\frac{1}{\alpha}, \frac{1}{\beta}$ c) $\frac{\alpha}{\beta}, \frac{\beta}{\alpha}$

iii. An algebraic expression of the form $x + \frac{1}{y}$ is called _____

a) Monomial b) Binomial c) None of a and b

iv. In right triangle if one angel is 45, the other angle will be _____

a) 97° b) 180° c) 45°

v. Simplification of $\theta \cdot \tan \theta \cdot \cot \theta =$ _____. a) θ b) 1 c) Zero

(b) Tick true or false in the following statements.

(05)

i. Discrimination of $ax^2+bx+c=0$ is $\sqrt{b^2 + 4ac}$ True / False

ii. The 2nd term in the expansion of $(x+y)^9$ is y^9 . True/ False

iii. The degree measure of one radian is equal to 57.3. True / False

iv. The ratio between perpendicular & base of a right triangle is called $\tan \theta$. True/ False

v. $\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$ is called the Sine's Law. True/ False

(c) Choose the correct Answer of each statement in Column No-I from Column No 2 & place its identifying letter a,b,c, or d in the space provided on the right hand side of each statement.

(05)

	Column – I		Column – 2
i)	Sum of roots of $x^2-2x = 0$ is _____	a)	Angle
ii)	The union of two ray with a common vertex is called _____	b)	Zero
iii)	The value : $C_2^5 =$ _____	c)	$\frac{1}{2}$
iv)	If $\sin = 45$ the $\operatorname{Cosec} 45 =$ _____	d)	Triangle
v)	The angle between two parallel vectors is _____	e)	10
		f)	2
		g)	$\sqrt{2}$

Khyber Pakhtun Khwa Board of Technical Education Peshawar

Diploma of Associate Engineer

Model Paper

Ist Year Electrical / Electronics / Telecomm /

Computer Hardware / Bio-Medical Technology (New Course)

Paper: - Applied Mathematics – I (Math– 123)

(Paper –A)

Time Allowed: - **02 Hours & 40 minutes** Max. Marks: - **60**

Part – B (Marks: 33)

Note:- Attempt only 11 (Eleven) questions from part B. All questions carry equal marks.

Q.No.2:- Define Quadratic equation and also write the standard form of quadratic equation in variable “x”.

Q. No.3:- the large hand of a clock is 28cm. How far does the tip of the clock have move in 20 minutes.

Q.No.4:- Define Binomial expression and write the General Term formula.

Q.No.5:- Find all Trigonometric ratios of 60°.

Q.No.6:- Prove that $\frac{1 - \cos \theta}{\sin \theta} = \frac{\sin \theta}{1 + \cos \theta}$

Q.No.7:- Define any two types of triangle.

Q.No.8:- State and write the Sine’s Law of Triangle.

Q.No.9:- Define angle of Elevation and Depression.

Q.No.10:- Define Scalar and Vector.

Q.No.11:- Define Null vector and what is the direction of Null Vector.

Q.No.12:- If a vector $\vec{a} = xi + yi + zk$. Find the unit vector of \vec{a}

Part – C (Marks : 27)

Note:- Attempt only Three questions form this part. Each question carries only 09 marks.

Q.No.13:- Solve the equation: $ax^2+bx+c=0$, $a \neq 0$

Q. No.14:- Find the fifth term in the expansion of $\left(2x^2 - \frac{3}{x}\right)^{10}$

Q.No.15:- Prove that $\cos 3A = 4\cos^3 A - 3\cos A$.

Q.No.16:- In any triangle ABC if $A = 40^\circ$, $a = 12$, $b = 7$ cm. Find the other dimensions of Triangle.

Q.No.17:- Prove that $(\vec{a} - \vec{b}) \times (\vec{a} - \vec{b}) = 2(\vec{a} \times \vec{b}) = 2(\vec{a} \times \vec{b})$ if \vec{a} and \vec{b} are any two none zero vectors.

Khyber Pakhtunkhwa Board of Technical Education Peshawar

Superintendent Sign:-

Diploma of Associate Engineer

Ist Year Civil / Mechanical / Bio-Medical / RACT /

Precision Mechanical / Dies & Mould Tech: (New Course)

Paper: - Applied Chemistry (Ch – 112)

Roll No: - _____

Candidate's Sign:-

Time Allowed: - 02½ Hours.

Max. Marks: - 50

Note: -

This paper consists of three sections A, B and C. Section A has fifteen minutes and should be submitted to the Supdt within specified time. It should be attempted on the question paper. Cutting, overwriting and use of pencil is not allowed.

Time Allowed: - 15 Minutes.

(Section – A)

Marks: - 10

Q.1: - a) Choose the correct answer of the following statements.

(05)

- The mass per unit volume is called _____.
a) volume b) weight c) density d) mole
- The molecular weight of Sulphuric Acid is _____.
a) 98 b) 97 c) 96 d) 95
- Neutron was discovered by _____.
a) Jabir Bin Hayan b) Chadwick c) Rutherford d) Bohar
- A pair of electron is donated in _____.
a) Ionic Bond b) covalent Bond c) π Bond d) Coordinate covalent Bond
- Acetic acid is a _____ acid.
a) strong acid b) heavy c) Weak d) None of these

b) Write True (T) or False (F) against each statement.

(05)

- PPM and mg/l are equal units.
- The velocity of α rays are equal to $1/10^{\text{th}}$ of light.
- Malam is a thermo setting plastic.
- Zirconia bricks are costly refractory material.
- An alloy is the homogenous mixture of two or more than two metals.

Time: -

2 Hrs & 15 Minutes.

(Section – B)

Marks: - 21

Q.2: -

Give short answer of any seven (07) short questions. Each question carries (03) marks.

- Define nucleons of the atoms.
- Define Ionic bond with examples.
- Acetic Salt and Basic Salt.
- Oxidation and Reduction
- How food is preserved by radiation.
- Causes of Corrosion
- Define Alloy and its need
- Define Solid and Liquid Fuels
- Define Solid Lubricants
- Causes of Water Pollution
- Define Poly ethylene

(Section – C)

Marks: - 19

- Q.3: - Define Chemistry. Explain Scope and significance of chemistry with respect to civil technology.
- Q.4: - Define Paints. Write and explain its composition in detail.
- Q.5: - Define Air Pollution. Write its causes and preventions.

Model Paper

Signature Supdt

Roll No _____

Sig: Cand _____

Time Allowed : 03 Hours

Total Mark= 75

Note: - There are three section in this paper i.e section –A,B, and C

Attempt Section –A on the same paper and return it to the Superintendent with in the given Time

No marks will be awarded for cutting, Erasing or overwriting marks of identification will lead to

UFM Case. Mobile phone etc are not allowed it the examination Hall.

Time Allowed : 20 Minutes

SECTION – A

Marks =15

Q:-1 (A). Write the correct option i.e a,b,c and d in the space provided against each part (5)

(i) if $Z = 3+4i$ then $\bar{Z} =$ _____

A, $-3+4i$ B, $3-4i$ C, $-3-4i$ D, $3+4i$

(ii) Nature of Roots of the quadratic Equation depends upon the _____

A, Coefficient B, Extant C, Discriminate D, none of these

(iii) if the Arithmetic Mean of 5,6,7 and X is 8 then what is the value of X= _____

A, 8 B, 14 C, 12 D, 16

(iv) $\sin\phi \cos\phi$ is equal to _____

A, ∞ B, 1 C, 2 D, Zero

(V) Ratio Between height and Base is Called _____

A, $\sec\phi$ B, $\tan\phi$ C, $\sin\phi$ D, $\cos\phi$

(B) Tick (✓) True or False in the following Statement. (5)

(i) $B = \{X/X \text{ is an even number}\}$ it is called Set builder form of Set. (True /False)

(ii) in the equation $an = ar^{n-1}$, r, Stand for common difference. (True /False)

(iii) the value of 90° is one. (True /False)

(iv) $\cos(\frac{\pi}{2} - \phi)$ is equal to $\sin\phi$ (True /False)

(v) in the angle of depression the observer is below the object (True /False)

(C) select the correct answer of each statement Column-I from Column-II and place its identifying letter a,b,c, etc in space provided against each statement in Column-I. (5)

Column-I

Column-II

(i) A pure Euadratic Equation in X is one for which b _____`

a, 118

(ii) $0!$ is equal to _____

b, Zero

(iii) If 1,-1, 1,-1,the 7th term is _____

c, 1

(iv) Value of $\cos^2 \phi/2 + \sin^2 \phi/2$ is _____

d, -1

(v) Foot of a laddar is 3m from a 4m height wall, length of Laddar is _____

e 5

**KHYBER PAKHTUNKHWA BOARD OF TECHNICAL EDUCATION
PESHAWAR
Diploma of Associate Engineering
Subject: -Applied Mathematics-I
Modal Paper-A (Maths-113)**

Time Allowed : 02 Hours 40 minutes

Total Mark= 60

(Section – B)

Note:- Attempt only Eleven Parts from this section. Each part carries only three marks

- Q.2 (i) Define Set, Real Number and Complex Number Marks=33
- (ii) Prove that $Z=\bar{Z}$ is real
- (iii) Find the Sum and product of roots of the equation
 $ax^2 + bx+c = 0, a \neq 0$
- (iv) Define Sequence, Arithmetic Progression and common difference.
- (v) Write the equation whose roots are -2,-3
- (vi) Find the 7th term of the A.P in which the first term is 11 and the common difference is 14.
- (vii) Define Geometric Mean and find the G.M between 2 and 8.
- (viii) Define Binomial Expression and write the general term formula
- (ix) Find the fifth term in the expression of $(2x^2-3/x)^{10}$
- (x) What is the radian measure of the central angle of an arc 50m long on a circle of radius 25m.
- (xi) Find all trigonometric ratios of 0°
- (xii) Find the value of $\tan 75^\circ$
- (xiii) Write the product $2\cos 95^\circ \sin 13^\circ$ as a sum or difference.
- (xiv) Define angle of Elevation and Depression.
- (xv) State and write the Cos-Law of triangle.

(SECTION-C)

Marks 27

Note:- Attempt any three Questions from this Section. Each question carries 09 marks.

- Q3. The roots of the equations $px^2 + qx + r=0$ are in the ratio m:n prove that,
 $\sqrt{m/n} + \sqrt{n/m} + \sqrt{p/q} = 0$
- Q4. The A.M between two numbers is 10 and their G.M is 8 Determine the numbers.
- Q5. Find the value of $(a+b)^5 + (a-b)^5$
- Q6. If $\tan A + \sin A = X$, $\tan A - \sin A = Y$
Show that $x^2 - y^2 = 4\sqrt{xy}$
- Q7. In any triangle ABC, if $b=5$, $C=8$ and $A=60^\circ$ Find A

Khyber Pakhtunkhwa Board of Technical Education Peshawar

Diploma of Associate Engineer

**Ist Year Auto & Diesel / Auto & Farm / Civil / Mechanical /
Electronics /Telecomm / / Architecture / Bio-Medical / RACT /**

Computer Information Technology (New Course)

Paper: - Applied Physics (Phy-122 / Phy-112)

Superintendent Sign:-

Roll No: - _____

Candidate's Sign:-

Time Allowed: - 02 ½ Hours.

Max. Marks: - 50

Note: - This paper consists of three sections A, B and C. Section A has fifteen minutes and should be submitted to the Supdt within specified time. It should be attempted on the question paper. Cutting, overwriting and use of pencil is not allowed.

Time Allowed: - 15 Minutes.

(Section – A)

Marks: - 10

Q.1: - Choose the correct answer of the following statements.

(05)

- There are _____ fundamental units in the S.I system.
a) Five b) six c) Seven d) Eight
- One Horse Power (H.P) = _____.
a) 100 watts b) 550 watts c) 746 watts d) 850 watts
- If two vectors make an angle of 90 with each other. Its dot product = _____.
a) 0 b) 1 c) -1 d) 2
- One complete revolution of a body in a circle is equal to _____.
a) 90° b) 180° c) 270° d) 360°
- The time period of second pendulum is _____.
a) 1 sec b) 2 sec c) 3 sec d) 4 sec

Q.2: -

Tick True or False of the following statements

(05)

- Sound is the form of energy. True / False
- When light enters from rare medium to a denser medium, it bends away from the normal. True / False
- The light waves are mechanical waves. True / False
- Optical fiber is made of glass and plastic. True / False
- LASER beam is used as cutting tool in the industries. True / False

(Section – B)

Q.3

Attempt any seven short questions from section B. each question carries three marks. (21)

- A car is moving with velocity of 90 km/h. Convert it into m/sec.
- A force of 15N is acting at an angle of 30° with x-axis. Find its components F_x and F_y .
- Derive the equation of motion. $S = vit + \frac{1}{2}at^2$.
- Define angular velocity angular acceleration and momentum.
- Write two conditions of equilibrium with equations.
- A simple pendulum has length of 1.5m. Find its time period if $g = 9.8m/sec^2$.
- Write down three factors for the production of sound.
- An object is placed at a distance of 24cm from a convex lens of focal length of 6cm. Find the position of its image.
- Write down three uses of optical fiber.
- Write the names of three types of LASER.

(Section – C)

Marks: - 19

Note: -

Attempt any two questions. Each question carries equal (9.5) marks.

Q.4: -

Explain Newton's Three laws of motion in detail.

Q.5: -

Describe the motion under elastic restoring force with mathematical expressions.

Q.6:-

Derive thin lens formula for a convex lens.

Khyber Pakhtunkhwa Board of Technical Education Peshawar
Diploma of Associate Engineer
Ist Year Auto & Diesel / Auto & Farm / Civil / Mechanical /
Electronics / Telecomm / / Architecture / Bio-Medical / RACT /
Computer Information Technology (New Course)
Paper: - Applied Physics (Phy-122 / Phy-112)

Superintendent Sign:-

Roll No: - _____
 Candidate's Sign:-

Model Paper

Time Allowed: - 02 ½ Hours.

Max. Marks: - 50

Note: - This paper consists of three sections A, B and C. Section A has fifteen minutes and should be submitted to the Supdt with in specified time . It should be attempted on the question paper. Cutting, overwriting and use of pencil is not allowed.

Time Allowed: - 15 Minutes.

(Section – A)

Marks: - 10

Q.1: - Choose the correct answer of the following statements. (05)

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 a) Five b) six c) Seven d) Eight
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 a) 100 watts b) 550 watts c) 746 watts d) 850 watts
- If two vectors make an angle of 90 with each other. Its dot product = _____.
 a) 0 b) 1 c) -1 d) 2
- One complete revolution of a body in a circle is equal to _____.
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(05)

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- Optical fiber is made of glass and plastic. True / False
- LASER beam is used as cutting tool in the industries. True / False

(Section – B)

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- A force of 15N is acting at an angle of 30° with x-axis. Find its components F_x and F_y .
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(Section – C)

Marks: - 19

Note: - Attempt any two questions. Each question carries equal(9.5) marks.

Q.4: - Explain Newton's Three laws of motion in detail.

Q.5: - Describe the motion under elastic restoring force with mathematical expressions.

Q.6:- Derive thin lens formula for a convex lens.

Model Paper